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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,706	09/21/2006	Hiroyuki Ikeuchi	52343	3106

1609 7590 10/13/2010

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EXAMINER	
DARJI, PRITESH D	

ART UNIT	PAPER NUMBER
1731	

MAIL DATE	DELIVERY MODE
10/13/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,706	IKEUCHI ET AL.	
	Examiner	Art Unit	
	PRITESH DARJI	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/16/2010 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelhardt '214.

Regarding claim 1, Engelhardt teaches hydrogel forming polymers (aqueous liquid absorbing agent), in which polymers are obtained by crosslinking polymerization. See col. 2, lines 38-42 and col. 3, lines 39-44. Preference is given to polymers which are obtained by crosslinking polymerization of monoethylenically unsaturated monomers bearing acid groups such as acrylic acid. See col. 3, lines 39-50. Saline flow

conductivity is at least 40 x 10 -7 cm^3s/g. A water absorption capacity is at least 20 g/g, which overlaps instantly claimed range. See abstract.

Regarding "wherein the water-absorbent resin… 100 mol %", in lines 3-6, any difference imparted by product by process limitations would have been obvious to one having ordinary skill in the art at the time of the invention was made because where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show the same process of making, see In re Brown, 173 USPQ 685, In re Fessmann, 180 USPQ 324, In re Spada, 15 USPQ2d 1655, In re Fitzgerald, 205 USPQ 594 and MPEP 2113.

Regarding an absorption rate (FSR) and a wet porosity, where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es) the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see In re Best, 195 USPQ 430.

Regarding overlapping ranges, the reference range that overlap the claimed ranges and considering the claimed ranges as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see ***In re Malagari*, 182 U.C.P.Q.549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).**

Regarding particulate diameter of claim 2, it would have obvious to one of ordinary skill in the art at the time of the invention to have adjusted higher or lower diameter because differences in diameter will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such diameter is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 3, Engelhardt teaches that polymer particles are being sprayed with water to form agglomerations. See col. 9, lines 30-31.

Regarding claim 4, Engelhardt teaches that polymer particles are surface crosslinked. See col. 3, lines 8-12.

Regarding claim 5, Engelhardt teaches many crosslinkers, which can be used as potential liquid permeability enhancing agent. See col. 6, line 60 to col. 7, line 23.

Claims 6-8, 10-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yorimichi (JP 2000-63527).

Regarding claim 6, Yorimichi teaches aqueous monomer solution having ethylenic unsaturated monomer and a cross linking agent in the solution. See [0022], [0028]. Then aqueous solution is polymerized to form hydrogel by cross linking. See

[0026]. Hydrogel is extruded from a perforated structure having diameters of 0.8mm - 28mm, which overlaps instantly claimed diameter. See [0052]. Hydrogel particles are pulverized and dried in order to form water absorbent resin. See [0070].

Regarding "to enhance liquid permeability", a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 7, Yorimichi teaches that hydrogel particles are ground and placed together for agglomerate shape. See [0046].

Regarding claim 8, Yorimichi teaches that the surface of the perforated structure is contacted with extrusion structure for cross linking of composition thus making it surface cross linking. See [0057].

Regarding claims 10 and 11, Yorimichi teaches that Ethylenediamine or diethylenetriamine can be used with monomer composition. See [0030].

Regarding claims 12 and 13, Yorimichi teaches that the concentration of monomer in the aqueous solution is from 20-60 wt%, which overlaps instantly claimed weight percentage range. See [0038].

Regarding overlapping ranges the reference range overlaps the claimed ranges and considering the claimed ranges as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 USPQ 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

Response to Arguments

Applicant's arguments filed 7/16/2010 have been fully considered but they are not persuasive.

Applicant argues that paragraphs 0026 and 0052 and JP '527 stated in the advisory action do not suggest enhancing liquid permeability.

However, “to enhance liquid permeability” is an “intended use limitation”. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Applicant argues that JP'527 does not suggest polymerizing and internally crosslinking the monomer to obtain the hydrogel, extruding the hydrogel to obtain pulverized gel particles, dying the particles and treating the water-absorbent resin particles to enhance liquid permeability as in claimed invention.

However, JP'527 (Yorimichi) teaches that aqueous solution is polymerized to form hydrogel by cross linking. See [0026]. Hydrogel is extruded from a perforated structure having diameters of 0.8mm -28mm, which overlaps instantly claimed diameter. See [0052]. Hydrogel particles are pulverized and dried in order to form water absorbent resin. See [0070]. It is stated above how "to enhance liquid permeability" does not carry patentable weight since its intended use limitation.

Applicant argues that paragraph 0052 of JP '527 refer the thickness of the perforated plate rather than the dimensions of the perforations of the plate.

However, JP '527 does not mention that stated units are the thickness of the perforate plate. In case, if it was thickness of the perforate plate, it would have obvious to one of ordinary skill in the art at the time of the invention to have smaller hydrogel particle size because differences in size will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such size is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re

Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Furthermore, smaller size will yield higher surface area, therefore more reaction efficiency of the structure.

Applicant argues JP'527 does not teach producing at least a portion of the pulverized gel particles obtained by extruding the hydrogel though the perforated structure to obtain agglomerates in claim 7.

However, JP '527 teaches that the screw type extrusion machine provided for make hydrogel particle uniformly ground. See [0046]. It is not clear how agglomerate shape differentiates from the ground shape. In the extrusion machine, particles are clustered together like agglomeration.

Applicant argues that JP '527 does not inherently disclose surface crosslinking the resulting water absorbent resin particles of claim 8.

However, JP '527 teaches a method for making water containing gel like crosslinked polymer granules, capable of carrying out uniform pulverization to the water containing gel like cross linked polymer in pulverizing treatment. It is described here how hydrogel particles are crosslinked. Crosslinking comprise formation of chemical bonds between polymer chains, which is performed on the surface to form additional chemical bonds. See abstract.

Applicant argues that JP'527 does not suggest treating water-absorbent resin particles with a liquid-permeability agent.

However, JP'527 teaches that Ethylenediamine or diethylenetriamine can be used with monomer composition. See JP'527, [0030] and instant specification, pg 21, line 7 to page 22, line 24.

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITESH DARJI whose telephone number is (571)270-5855. The examiner can normally be reached on Monday to Thursday 8:00AM EST to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/
Supervisory Patent Examiner, Art Unit 1731

/P. D./
Examiner, Art Unit 1731